

I. Amendments to the Claims

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

Listing of Claims:

1-33. (Canceled)

34. (Currently Amended) A process for reducing the amount of residual diphenylmethane diisocyanate monomer in a polyurethane prepolymer reaction product comprising the steps of

(A) adding at least one polyol to a stoichiometric excess of a dissolved diphenylmethane diisocyanate monomer in a solution at an NCO:OH ratio in the range of from about 2:1 to 20:1, wherein the solution comprises the diphenylmethane diisocyanate ~~diisocyanate~~ monomer and one or more inert solvents consisting ~~essentially~~ of solvents having a boiling point about 1°C to about 100°C below the boiling point of the diphenylmethane diisocyanate monomer at a pressure of 10 torr, wherein the weight ratio of the one or more inert solvents to the diphenylmethane diisocyanate monomer ranges from about 75:25 to about 35:65,

(B) reacting said polyol(s) with said dissolved diphenylmethane diisocyanate monomer to form a mixture comprising polyurethane prepolymer reaction product, unreacted diphenylmethane diisocyanate, and said one or more inert solvents, and

(C) distilling the mixture comprising polyurethane prepolymer reaction product, unreacted diphenylmethane diisocyanate, and said one or more inert solvents to strip the unreacted diphenylmethane diisocyanate to a level less than 0.3% by weight based on the combined weight of prepolymer, residual monomer, and residual one or more inert solvents, wherein the one or more inert solvents comprise about 5% to about 85% by weight of the total weight of the combination of the mixture for forming the prepolymer reaction product plus solvents.

35. (Previously Presented) The process of claim 34 wherein the monomeric diphenylmethane diisocyanate is at least one isomer of diphenylmethane diisocyanate.

36. (Previously Presented) The process of claim 35 wherein the one or more inert solvents are selected from the group consisting of organic aromatic esters, aliphatic esters, and mixtures thereof having boiling points in the range of from about 115°C to about 214°C at 10 torr.

37. (Previously Presented) The process of claim 35 wherein the distillation step comprises at least three agitated film vacuum distillation stages in series, each at an evaporative temperature of up to 150°C.

38. (Previously Presented) The process of claim 34 wherein the prepolymer contains less than 0.1% by weight of unreacted diphenylmethane diisocyanate monomer based on the combined weight of prepolymer, residual monomer, and residual one or more inert solvents after stripping.

39. (Previously Presented) The process of claim 34 wherein the prepolymer contains less than 0.05% by weight of unreacted diphenylmethane diisocyanate monomer based on the combined weight of prepolymer, residual monomer, and residual one or more inert solvents stripping and comprises at least 80% of the theoretical NCO content for a pure ABA structure.

40. (Previously Presented) The process of claim 34 wherein the polyol or polyols are selected from the group consisting of polyesters of adipic acid; polyethers of ethylene oxide, propylene oxide, or tetrahydrofuran; polycaprolactones; polycarbonates; hydrocarbon polyols; and mixtures thereof; said polyol or polyols having a number average molecular weight in the range of from about 400 to about 5000.

41. (Previously Presented) The process of claim 34 wherein the polyol or polyols comprise at least one component having a low molecular weight in the range of from about 62 to about 400, and selected from the group consisting of ethylene glycol, isomers of propylene glycol, isomers of butane diol, hexanediol, trimethylolpropane, pentaerythritol, poly(tetramethylene ether) glycol, diethylene glycol, triethylene glycol, dipropylene glycol, tripropylene glycol, and mixtures thereof.

42. (Previously Presented) The process of claim 41 further comprising at least one polyol having a high number average molecular weight in the range of from about 400 to about 5000.

43. (Previously Presented) The process of claim 42 wherein the molar ratio of the low molecular weight polyol to the high number average molecular weight polyol is in the range of from about 0.25 to about 2.5: 1.

44. (Previously Presented) The process of claim 34 wherein the one or more inert solvents are selected from the group consisting of dimethyl phthalate, diethyl phthalate, diisobutyl adipate, and dibutyl phthalate.

45. (Previously Presented) The process of claim 34 further comprising the step of adding at least one blocking agent selected from the group consisting of a ketoxime, a phenol, a lactam, or a pyrazole to the stripped prepolymer.